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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/484,051 | 01/18/2000 | Chan-hoon Park | SEC.0689 | 9194 |

7590 06/05/2002

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| EXAMINER |
|---|
| ATKINSON, CHRISTOPHER MARK |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3743 | |

DATE MAILED: 06/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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| ART UNIT | PAPER NUMBER |
| | 14 |

**DATE MAILED:**

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

## OFFICE ACTION SUMMARY

☑ Responsive to communication(s) filed on 3/14/02; 3/5/02; 12/11/01.

☑ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

**Disposition of Claims**

☑ Claim(s) 1, 7-8, 13-15, 19-20 + 24 is/are pending in the application.

Of the above, claim(s) 13-15 + 19-20 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☑ Claim(s) 1, 7-8 and 24 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

**Application Papers**

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

☐ Notice of Reference Cited, PTO-892

☑ Information Disclosure Statement(s), PTO-1449, Paper No(s). 12

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

**-- SEE OFFICE ACTION ON THE FOLLOWING PAGES --**



* U.S. GPO: 1998-410-238/40050

***Response to Amendment***

Applicant's arguments filed 12/11/01 have been fully considered but they are not persuasive.

Claims 13-15 and 19-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1, 7-8 and 24 are rejected under 35 U.S.C. § 103 as being unpatentable over Japanese reference ('722) in view of Akachi. The Japanese reference ('722) discloses all the claimed features with the exception of the heat pipe having closed loop capillary channels.

The patent of Akachi discloses that it is known to have a heat pipe comprised of a closed loop capillary channel for the purpose of improved heat transfer performance without increasing thickness; reducing size and weight; reducing contact heat resistance, reducing manufacturing

costs and providing uniform heat transfer across the heat pipes outer surface. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in the Japanese reference ('722) a heat pipe comprised of a closed loop capillary channel for the purpose of improved heat transfer performance without increasing thickness; reducing size and weight; reducing contact heat resistance, reducing manufacturing costs and providing uniform heat transfer across the heat pipes outer surface as disclosed in Akachi.

***Response to Arguments***

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Akachi, not the Japanese reference ('722), is relied upon in the above rejection to teach a heat pipe having of a closed loop capillary channel. In response to applicant's argument directed toward the physical employment of the device of Akachi into the Japanese reference ('722), the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Since Akachi teaches a heat pipe having of a closed loop capillary channel, it would have been obvious at the time the invention was made to a person having ordinary skill in

the art to employ as the heat pipe in the Japanese reference ('722) the heat pipe as disclosed in Akachi which is comprised of a closed loop capillary channel for the purpose of improved heat transfer performance without increasing thickness; reducing size and weight; reducing contact heat resistance, reducing manufacturing costs and providing uniform heat transfer across the heat pipes outer surface as disclosed in Akachi. Only radiant heat is transferred from the heat pipe of the Japanese reference ('722) to the wafer.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Atkinson whose telephone number is (703) 308-2603.

CHRISTOPHER ATKINSON
PRIMARY EXAMINER

C.A.
June 3, 2002